MAR 1 1949

PERIODICAL ROOM
GENERAL LIBRARY
UNIV. OF MICH.

THE JOURNAL OF PHILOSOPHY

VOL. XLVI, NO. 4: FEBRUARY 17, 1949

CONTENTS

Whitehead's Doctrine of Causal Efficacy: HUGH RODNEY KING. 85

Independence: Epistemological and Physical: EDITH WATSON SCHIPPER 101

Book Review 105

V. F. ASMUS, *Logika:* ALEXANDER P. MASLOW.

Journals and New Books 108

Notes and News 111

PUBLISHED FORTNIGHTLY

BY THE

JOURNAL OF PHILOSOPHY, INC.

THE JOURNAL OF PHILOSOPHY

FOUNDED BY FREDERICK J. E. WOODBRIDGE AND WENDELL T. BUSH

EDITORS: Herbert W. Schneider, John H. Randall, Jr., Ernest Nagel.

BOOK EDITORS (1947–1950): Henry David Aiken, Virgil C. Aldrich, Joseph L. Blau, C. West Churchman, Harry T. Costello, John R. Everett, Edwin Garlan, Otto F. Kraushaar, Paul O. Kristeller, Cornelius Krusé, Helmut Kuhn, Kenneth P. Landon, Harold A. Larrabee, Donald S. Mackay, V. J. McGill, Ernest A. Moody, P. Romanell, Mario M. Rossi.

MANAGING EDITOR: Iris Wilder Dean; EDITORIAL CONSULTANT: Emerson Buchanan.

THE JOURNAL OF PHILOSOPHY is owned by the Journal of Philosophy, Inc., and published fortnightly at Prince and Lemon Sts., Lancaster, Pa. Editorial Office: 515 West 116th St., New York 27, N. Y. President, Herbert W. Schneider; Vice President, John H. Randall, Jr.; Treasurer, Frederick A. Dewey; Secretary, Iris Wilder Dean.

Communications to the editors should be addressed to the Managing Editor, 515 West 116th Street, New York 27, N. Y. Subscriptions and advertisements should be sent to THE JOURNAL OF PHILOSOPHY, Prince and Lemon Streets, Lancaster, Pa., or 515 West 116th Street, New York 27, N. Y. The annual subscription price (twenty-six numbers) is $5.00. The price of single numbers is 30 cents.

Entered as second class matter, March 18, 1921, at the Post Office at Lancaster, Pa., under Act of Congress of March 3, 1879.

THE JOURNAL OF THE HISTORY OF IDEAS

Editorial Committee: JOHN HERMAN RANDALL, JR., *Chairman.* GEORGE BOAS, GILBERT CHINARD, PAUL O. KRISTELLER, ARTHUR O. LOVEJOY, MARJORIE H. NICOLSON, PHILIP P. WIENER.

Board of Editors: ARTHUR O. LOVEJOY, *Chairman;* GEORGE BOAS, CRANE BRINTON, HARCOURT BROWN, FRANCIS W. COKER, HAJO HOLBORN, PAUL O. KRISTELLER, F. O. MATTHIESSEN, RICHARD P. MCKEON, PERRY MILLER, MEYER SCHAPIRO, J. SALWYN SCHAPIRO, HENRY N. SMITH, LOUIS B. WRIGHT; PHILIP P. WIENER, *Managing Editor.*

A quarterly devoted to intellectual history, with special emphasis on the inter-relations between the several fields of historical study—the history of philosophy, of literature and the arts, of the natural and social sciences, of religion, and of political and social movements. Publishes researches, notes and documents, translations of sources, discussions, and critical reviews, likely to be of common interest to students in various fields.

Subscription rate, $5.00 for 1 year, $9 for 2 years, $1.50 per copy; foreign: $6.00 for one year; $11.00 for two years. Standard library-bound volumes, $3.00 extra. Contents of current and back issues and rates for numbers sent on request. Club rate for annual subscription and each number of series of separate studies in the history of Ideas, beginning with Ernst Cassirer on *Kant, Rousseau, and Goethe.*

Address: **Journal of the History of Ideas, Inc.**

City College, New York 31, N. Y.

VOLUME XLVI, No. 4 FEBRUARY 17, 1949

THE JOURNAL OF PHILOSOPHY

WHITEHEAD'S DOCTRINE OF CAUSAL EFFICACY

IN any analysis of experience a distinction must be made between (i) the accidental manifold of any experience, or the *specific* sense data, or the "given," or *qualia* exemplified in that experience, and (ii) the immediate content or nature of the experience considered in abstraction from the specificity of the data.[1] The latter is a consideration, *relative to experience,* of being-qua-being; that is, it is descriptive of those conditions to which any experience must conform in order to lay any claim at all *to be.* For example, Hume's principle of sensation is a descriptive generalization purporting to hold over every instance of immediate experience. The principle says that the condition of any immediate experience is that it be an "impression," relegated into some "category," e.g., "sensation," of experience according to its "force and vivacity"; or, as stated by Whitehead, "that immediate experience is analyzable solely in terms of universals," where "universal" means a determinate, self-contained, unique sense *quale,* capable of recognition *if* repeated.

The former, the accidental manifold of experience, I take it by modern consensus of opinion, is the locus of *induction.* For the applicability of *any* inductive hypothesis necessitates that its objects be members of classes, which is impossible apart from some *plurality of specific instances* as the basis of a class concept, or at least *a* specific instance to define a unit class. But in (ii) we have abstracted completely from the specificity (and hence plurality) of the data of experience. Thus the formulation of the generalities

[1] I say "immediate nature, or *content*" advisedly. The reference here is *not* to some *a priori* mode, or *form,* of subjective entertainment of the data. The Kantian tradition, which emphasizes the notion that *experience* involves a subjective construct, is led to its concept of the "*a priori* modes" of experiencing and cognizing in virtue of the fact that it *does* entertain quite definite assumptions regarding immediacy, what it calls the "matter" of experience, viz., the assumptions that the matter, the "given," is merely intensive, non-relating, and that it is "given" to a substantial subject. It is evident that any thoroughgoing empiricism must confute this view that *immediacy is merely inchoate experience;* but it will be equally the contention of this paper that both the Humian and Kantian assumptions as to the nature of immediacy are *inadequate* and for this reason preclude a successful empiricism.

applicable to immediate experience apart from the specificity of data, or sensibilia, or qualia, falls outside the locus of what modern philosophy is wont to call "induction." Hereafter, when we use the word "immediacy" we shall mean experience without any reference to its *specific* data.

The reason for the inadequacy of induction in dealing with the generalities applicable to immediacy, such as Hume's principle, is that induction depends upon what may be called the "principle of difference," and thus precludes any rationalization of those elements *constantly* present in experience and so holding over every detail. In other words, the food for induction is limited to the *specific* sense qualia of experience, and qualia necessitate the agency of memory as the basis of their recognition and subsumption, and recognition necessitates repeatability, and repeatability the factor of difference, viz., that sometimes the quality is present and sometimes it is absent in the experiential field, or at least sometimes it is attended to and sometimes it isn't. The dependence of induction upon the fluctuation and heterogeneity of experience precludes any inductive success in the formulation of the broader generalities which experience qua immediacy exemplifies, that is, conditions under which all the heterogeneity of experience must be given, and of which the qualia of that experience are simply accidents.

We can not appeal to any plurality of instances, or specificity of instances, in formulating the broader generalities, for experience per se is the instance. The appeal to plurality can only be the appeal for confirmation from another percipient. But unfortunately here the variant abilities of individuals in introspection, discrimination, and imaginative generalization lend no small difficulty in the confirmation. For example, there is at present little widespread agreement over the nature of the simple "sense datum," what is variously called "a quale," "the given," "presentation," "essence," etc.; but at least it is admitted that it isn't plurality here that counts, neither plurality of specific data, nor plurality of percipients. A proper understanding of the "given" may demand repeated reflections upon experience and comparisons with reports of others, but there is no *ratio of probability* based upon the number, arrangements, or specificity of these instances of consideration. A flash of insight may accomplish what a thousand instances and a thousand lesser philosophers could never have accomplished.

Those generalizations applicable to immediacy we shall call, in contradistinction to the processes of induction, which result in *scientific* hypotheses or generalizations, "philosophical generalities." It is evident that *philosophical* generalizations are *not*

tested by some subsequent pragmatic verification or fulfillment of a prediction based upon some specific data in question. That is, only *scientific* hypotheses based upon certain inductive classifications, observations of sequences among specific data, and postulates to account for deviations, gain validity by a fulfilled prediction consequent upon some planned operation. Ideally, in the verification of scientific hypotheses all we need are pointers correlated with the specificity of the givenness; if the readings of the pointers behave as predicted, some further grade of probability is accorded the hypothesis.

But the method of philosophical generalization and verification is one of sheer *disclosure*. Thus the philosophical generalities offer themselves to no possible method of "proof," apart from an appeal to "self-evidence" in their disclosure of the nature of immediacy. For this reason Whitehead has said that "philosophy is either self-evident or it is not philosophy." Self-evidence is a product of theoretical adequacy in handling the data of immediacy.

The point is, that in the formulation of these generalities which stand as the necessary conditions of any and all instances of experience, the logic of induction and the mechanical method of "proof," limited to the specific data and their patterns, is simply inapplicable. But nonetheless we *do* make such generalizations; and can not in fact get along without some tentative and hypothetical postulates as to the nature of our immediacy, e.g., concerning the "given" or "memory." Also these postulates are no less "empirical" than are scientific hypotheses, though there be no mechanical proof test of their validity. The generalization is "shoved-up-against experience," so to speak, and finds its validity and acceptance in the sudden revelation, "Yes, of course, this is precisely what I do experience!"

Proceeding directly to Hume, the father of modern analyses of immediacy, we find his description alighting upon the clear-cut qualia, the "impressions of sensation," the determinate colors, shapes, sounds, tactual data, qualitative emotions, visceral qualia, etc., that pattern the specious present. The "self-evidence," or validity, of such a generalization is apparent by virtue of its wide and long acceptance. Let us grant Hume the field—but not all the field. The principle is too elementary to be significant and too pretentious to be taken seriously.

(i) It is too elementary in the sense that it is too generic. Hume himself attempted to make his analysis more significant by adding the distinctions of "force and vivacity," and thence classifying and distinguishing various species of the immediate qualia: first, impressions of sensation, of unknown origin (in the Soul);

then, ideas of such impressions, "derived from" the impressions; then, impressions of reflection "derived from" the antecedent ideas; and then, ideas of impressions of reflection. Somewhere in this process there is to be found an impression of repetition of impressions. This need not be pursued for our discussion.

(ii) It is too pretentious because it purports to be adequate in handling the *total* of immediate experience. This assumption is absolutely groundless apart from some further assumption that the percipient is a "primary substance" which is an experiencing subject only in virtue of the sense qualia which qualify it. In fact it was this assumption of a "soul" (it makes no difference whether Hume explicitly denied the assumption), or an "ego" (in Descartes' words), as a primary substance which "knows" only in virtue of its private perceptions, that made Hume's principle so precise and clear.

Now it should not be supposed that the thesis that all of immediate experience can adequately be analyzed solely in terms of determinate qualia, necessarily presupposes a plurality of "private minds," or a dualism, or an "ego," or "subject" in distinction to an "object," or an "external world," etc. (though some such notion is generally brought in the back door). But once having made the assumption that one and only one generality holds over immediacy, viz., the thesis under question, and so concluded that all that rational creatures have to play with is this wealth of qualia, philosophy should withdraw from the field of ontology, and not make pretensions about "mind," "matter," "causality," "external world," "subject," "object," "God," "freedom," etc. The rest of the inquiry must deal solely with the specificity of the data, the accidental manifold of experience, class subsumptions of the qualia, relations, repetitions, patterns, etc. We have now reduced ourselves to the "value of a variable." Actually, of course, even we positivists at this point can not avoid, in order to save some fragment of science and logic, introducing into immediacy an "impression of repetition," and hence some disguised form of "memory." But with this flagrant violation of our fundamental assumption, that qualia exhaust immediacy, the "subject," as the basis of this immanence of the past in the present, makes its appearance; for no simple stream of qualia could give rise to an *impression of repetition*. There must be something, some primary substance, which this stream qualifies; and which, by an equally mysterious "retention" of qualia (though "faint copies"), introduces into immediacy the impression, or awareness, of the repetition of qualia. Apart from this, the notion of "memory" is a subterfuge.

But what then gives rise to this qualification of the subject by

the qualia, and why should certain sequential patterns repeat themselves? At this point we happily reclaim the "object" and thus the world by allowing common sense a second conspicuous violation of our fundamental principle, viz., the introduction into immediacy of the element of "perceptual acceptance," animal faith, primitive credulity, etc.

Now, the proponents of this element, e.g., Price, Santayana, Lewis, etc., would probably deny that this element has in it any element of givenness, that is, that it is a deliverance of experience, or an element of immediacy. Supposedly, it is simply a *subjective reaction* to the data, or qualia, of immediacy. But this is a subterfuge in words.

The precise tool which Price so elegantly used against the causal theory of perception can in turn be used against these proponents of "subjective reaction," including Price's own notion of "perceptual acceptance." Price's objection against the causal hypothesis to account for our objective reference was, briefly, that it was no hypothesis at all, but simply a conclusion.[2] That is, we do refer our datum to an external object, and so conclude that it is caused; but the point for discussion is, Why do we refer our datum? What we want is an hypothesis that, when we confront experience with it, will explain *why* we make the common-sense reference we do, i.e., that will *disclose* those "compulsive elements" of immediacy. Whereas the causal theory is simply a conclusion from the obvious fact that we *do* make the reference. It *accepts* our common sense; it does not, as it should, *account for* common sense.

Now, the subjective reaction or perceptual acceptance theory is no less a conclusion rather than an explanatory generalization. We do refer our datum, and so *conclude* that we automatically make a perceptual acceptance; the conclusion that there is "subjective reaction," or "animal faith" is undeniable. But why is there perceptual acceptance? Why does this subjective reaction take the form of objective reference, and what element of immediacy provokes this reaction?

To answer that the qualia provoke it, is no answer at all, but simply an irrational appeal to the mysterious ways of a subject, which in turn we have no basis (on our Humian assumptions) for believing. But even granting the subject, the theory of perceptual acceptance is *not* a generalization from the data of immediacy, but is rather a *conclusion made about the subject* from observing its animal habits. It does not explain common sense or its habits by an appeal to the data of experience, that is, of immediacy.

[2] H. H. Price, *Perception*, p. 91.

If this is as far as empiricism can go, I see no sin in acquiescing in a mystery. Certainly common sense does "perceptually accept" and "subjectively react"; and certainly on the Humian assumption that immediate experience is nothing more than qualia, we can have no insight into the nature of the qualified subject. Price's conclusion amounts to saying that, by the very nature of things, there can *never* be given any reason for why we act as we do. There can never be an hypothesis that will disclose those elements in immediate experience which cause us to react (or "accept" or "refer") as we do; because there just aren't any such elements. And you don't embarrass the theory by asking what then causes the reaction; it is a secret of the subject which even the subject doesn't know.

The conclusion to this discussion is, for those who fancy that the office of philosophy is to resolve mysteries, that there is necessarily a further element in immediacy that accounts for the subjective reaction, and thus the Humian analysis of immediacy is too abstract and elementary. The thesis being advanced here is that any philosophical generalization that can account *only* for the qualitative differentiae, or sense qualia, in immediacy, is inadequate as an analysis of immediacy. And to insist that there can be no immediate experience other than qualitative differentiae on the basis of some such philosophical system (e.g., a body-mind, or primary substance-object, or subject-external world, system), is to beg the question, and preclude any adequate analysis of experience out of deference to the comforts of a familiar and traditional dogma. Humian scepticism is based upon an insidious dogmatism.

Now, it seems possible to say that every particular perception by a particular percipient through a particular duration of particular data must display, however complex, a perfectly determinate qualitative pattern which it is possible to conceive (though it be beyond the mnemonic and temporal limitations of any individual) as analyz*able* in terms of determinate qualia. But to say that experience *exemplifies* the qualia, or that the qualia can be *abstracted from* the perceptual event, is not the same as saying that the total content of immediacy can be adequately analyzed in terms of those qualia. That is, it is one thing to abstract the determinate qualia from the experiential event, and quite another thing to attempt to construct the experiential event out of simply the determinate qualia. And by "experiential event" we mean simply that which was experienced. It is a complete mistake to ask, How can a concrete event be built-up out of universals? The only philosophical question is how the universals come to be abstracted from the concrete event. Equally, the question for any analysis of perception is,

How, in the experiential event, are there displayed and abstracted determinate qualia and impressions of sensations? And how shall we describe the surd of experience not caught in this net of abstraction? I suspect that it will take a very fancy ontology to answer this inquiry; but that when it is at all adequately formulated, we shall find ourselves also in possession of an answer to the why of perceptual acceptance, or subjective reaction, as well as to the enigmas of memory, causation, anticipation, etc.

But this ontology, or philosophical generalization, will be no less "empirical" than Hume's principle and the postulate of a subject as the basis of memory, the "impression of repetition." It will equally be testable by its adequacy in explaining the content of immediacy. We shall expect it to account for the nature and genesis of memory, for sensation, perceptual acceptance, dreams, mnemonic overtones, esthetic feelings, imagination, consciousness, etc. The Humian doctrine and its complementary doctrine of the percipient as a primary substance, have been necessarily reticent concerning such an account. In fact, on Humian assumptions, we must remain in blank ignorance as to the genesis of these elements.

To deny the adequacy of the Humian sensationalism is thus to throw a monkey-wrench into the traditional knower-known machinery. The notion of a "mind" entertaining private impressions of sensation is simply a derivative abstraction, and is inadequate as an expression of the concrete experience. Perception can no longer be conceived as an epiphenomenon that somehow mysteriously *supervenes* upon certain physiological excitements. The concept of a primary substance as a subject qualified by some sense data, is too abstract to be significant in any adequate analysis of immediacy.

The belief that we know precisely what composes our immediate experience is a trick of our philosophical presuppositions that seldom make explicit appearance within specific theories. The further belief that we can clarify these notions apart from reference to any philosophical system or to these presuppositions as to the general nature of things, is simply a delusion. I can not even speak about "perception" unless I have some vague notion of a percipient and a perceived. And I can not speak about the nature of that perception without making my "vague notion" more precise. Every question as to the nature of immediacy, unlike the mere inventory and classification of specific data, leads me beyond itself.

Contemporary discussions of perception, for the most part, entertain a very parsimonious and simple ontology, consisting basically of a *subject* qualified by its private sense qualia, and of an *object* with the "power" (in Locke's sense) of, in some unknowable

fashion, occasioning those qualia. Any researches of science into the nature of the object, or of Nature, are irrelevant to this relation between object and subject, because the subject, or "mind," is made of ethereal stuff. There is no natural or causal relation (spatio-temporal continuity) between mind and matter (and though there may be a one-one correlation of specific physiological excitements with specific qualia, the *how* of this correlation is inexplicable).

If, however, the determinate qualia, or qualitative aspects of immediacy, be considered as abstractions from the full content of experience, it is apparent that our ontology will have to be more complex. The notion of a mere "subject," and a mere "object," is too abstract. We mean by a "mere subject" something that is actual, or that is an *experiencing* being, only in virtue of specific complexes of entertained subjective sense data, or qualia, capable of recognition *if* repeated.

But to deny the adequacy of the "mere subject," or "mind," in explaining immediate experience, is to deny the ontological validity of mind-matter philosophy. Such a philosophy, like Newtonian mechanics, will be applicable within limitations, but simply false if it is proposed as a thesis adequate in handling all the details of experience. Here is Whitehead's ground for a *revolt against dualism*. It is *not* a revolt against the subject-object structure of nature, or the mental-physical, but rather against the traditional failure in sufficiently analyzing that structure.

In accordance with the conclusions of the special sciences, Whitehead proposes that we consider the phases of human experience as specific *natural events*. This means that generalities applicable to all natural events, such as lower organic, and even inorganic, events, must also be applicable to human experience; otherwise it means nothing to say that human experience falls within Nature:

> . . . any doctrine which refuses to place human experience outside nature, must find in descriptions of human experience factors which also enter into descriptions of less specialized natural occurrences. If there be no such factors, then the doctrine of human experience as a fact within nature is mere bluff, founded upon vague phrases whose sole merit is a comforting familiarity. We should either admit dualism, at least as a provisional doctrine, or we should point out the identical elements connecting human experience with physical science.[3]

This does *not* mean that psychological phenomena *supervene* upon, or are *occasioned by*, certain physiological excitements, or natural events. It is not a behavioristic psychology. It means,

[3] Whitehead, *Adventures of Ideas*, p. 237.

rather, that the psychological phenomena are equally natural events; otherwise we have neither escaped the mind-body dilemma, nor made human experience a "fact within nature." It means that a full-blooded, natural event becomes, so to speak, *self-conscious.* And as far as the immediacy of that experiential event is concerned, the specific qualitative pattern it exemplifies, or, conversely, the determinate qualia experienced, are subsidiary to the vivid feeling of action, of derivation, of transition and causation present in the concrete experiential event. In consideration solely of the qualia of that experience, a criterion which heretofore has defined subjectivity, and which has thus resulted in the bifurcation of nature into "mind" and "matter," we necessarily abstract from the full content of immediacy. To say that such a consideration is not an abstraction is baseless; and in the light of the qualia's inadequacy in providing a sufficient basis for the explanation of subjective reaction, memory, etc., there are the best possible grounds for pursuing the hypothesis that it *is* an abstraction. Those who can not divorce themselves from the substance-quality interpretation of the knower-known relation will, of course, find it impossible to discover anything but determinate qualia in their experience.

Apart from a coherent ontology, the awareness of what we have loosely called "the vivid feeling of action, of derivation, of transition and causation," can not be formulated in any very precise terms. But we may use here Whitehead's generic phrase, "causal efficacy," somewhat as we have used the word "qualia" as generic relative to every manner of qualitative differentia. *Causal efficacy* is fundamental in the sense that it is the organism's awareness of its own derivation, sustenance, and mutual becoming and relationship with the other events of its environment—it is the awareness of itself as an efficacious fact within nature—; but the nature of that fact and the qualitative character of the environment are, of course, not disclosed in the mode of causal efficacy. The very fact that there *are* events and that there *is* an environment are later questions; they emerge, as every infant must know, in the *interpretation* of experience. But the point is, that this element of causal feeling within immediate experience can not itself be "disclosed" (or interpreted) apart from some generalization involving the notion of nature and the percipient and his experience as restricted natural events within that matrix. The neat simplicity of presupposing only a substantial "mind" (whether it be a stream, or a solipsismal present) is out in any proper analysis of experience. And with this requisite of perceptual analysis we cut the frail roots of Humian scepticism and Berkeleyan idealism. Ex-

perience is the final court of appeal, and there is more evidence than a scepticism based upon a "qualia-interpretation" will allow. Of course, no one has ever taken a radical scepticism seriously; but a blind deference to the substance-quality dogma has made it impossible, by an appeal to immediate experience, to explain just why that is so.

Let us consider the nature of "causal efficacy" more carefully. At the outset it should be said that, since causal efficacy is *not in any fashion* a determinate *quale*, the notions of "repetition," or "recognizability," or "uniqueness," as definitive of a sense quale, are simply inapplicable to it. That is, at no time within my experience can I say, "Oho! here is an *instance* of causal efficacy," unless, of course, I am speaking of myself as an experiencing being, i.e., of the whole manifold of my consciousness. For my experience is itself an instance of causal efficacy, just as it is an instance of various congeries of qualia; and in virtue of the fact that all experiences are natural events, my experience could not possibly be *apart from* causal efficacy. Now, of course, I may abstract from the qualia of my experience and so attempt to turn my attention upon the element of causal feeling, and in this sense may be said to "recognize" it, and become aware of its "uniqueness." But here again a distinction must be made between the accidental manifold of experience and immediacy.

Now there are certainly "instances" of immediacy. And limiting "immediacy" to conscious experience, it is conceivable that I should awaken in the morning and say, "Oho! here is an instance of immediacy!" I may also distinguish various elements in that occasion of consciousness, e.g., impressions of sensations, impressions of reflections, impressions of repetition, unity of apperception, memory,—and causal awareness. In fact, the elucidation of the content of immediacy is a primary task of philosophy. Further, it is conceivable (though highly improbable as a fact) that in some future epoch the universe should exhibit another experimental event identical with that which will constitute my own awakening in the morning, an event having the same data, the same subjective entertainment of those data, the same mnemonic overtones, the same development, and the same outcome. There is nothing unthinkable about the repetition of any natural event, though in all its details it be impossible as a matter of fact. In this sense, every experiential event is recogniz*able*, unique, and repeat*able*. But this is quite a different thing from the criterion of a quale.

A *quale* is an "instance" falling *within* any occasion of experience; its repetition and uniqueness is a property relative to the accidental manifold of experience. The qualia must be repeatable

within experience; whereas the repetition of causal efficacy is simply an instance *of* experience. A quale is an instance repeatable within an instance of immediacy. The repetition of a quale is an instance of a *specific* experience, e.g., the awareness of a shade of red, or a definite shape, or specific sound. But that specificity is non-essential to the nature of experience qua experience, i.e., of immediacy: *it may not be.* The only thing that can be repeated *within* experience is some specific quale (or qualia). This is another way of saying that the qualia are the locus of induction: they stand as the requisites of a class concept, for the notion of a class is drawn from experience in virtue of the fact that there are qualia repeated within experience. Equally, the qualia are the locus of denotation, and hence of modern so-called "meaning analysis." You just don't denote an unspecified impression of sensation. No more do you denote subjectivity or causal efficacy. But to exclude subjectivity, the "ego," causal efficacy, etc., simply because they can not be found among the *objects,* the denoted and projected qualia, of experience, is nonsensical.

The doctrine of causal efficacy amounts to saying that in every specific instance of experience there is a content which is not exhausted by a description of the qualitative differentiae in virtue of which that instance is repeatable. Thus the word "content" is not here limited to the subsumable, or possibly subsumable. And for this reason to ask, *What* do I experience? and then, having exhausted classification and subsumption, to conclude that any notion of causal efficacy is nonsense because it can not be found in this "what," is to beg the question by again confusing the "what" of the accidental manifold of experience with the "what" of immediacy. And to limit the content of immediacy to the qualia is to reduce subjectivity to the realm of universality, and hence, as Hume saw so clearly, to preclude any rational epistemology (where rational means an explanation of our scientific beliefs and commonsense habits by an appeal in terms of our philosophy to the data of immediacy).

The difficulty attaching to any generalization of immediacy is that, contrary to purely logical and classificatory inductive methods (if any such method could be "pure"), we must make some definite ontological commitments. Hume's often praised clarity, simplicity, and precision may be credited to the simplicity, clarity, and universal acceptance of the ontology within which he wrote his *Treatise.* Whitehead's contention is that that ontology has proved itself *too* simple to be an adequate matrix from which true propositions applicable to every element of our experience can be framed. Certainly no concept of causal efficacy (not to mention memory)

can be justified within that scheme. Thus to deny Humian psychology and ontology is to demand the construction of a novel scheme of ideas in terms of which some propositions applicable to our experience may be framed. Such a scheme will be tentative and hypothetical, valid only in so far as it serves to integrate our knowledge and account for the complexities of experience. But the important point is, that there are no *a priori* grounds forbidding such a speculative venture. The wealth of experience and immediacy cries out for proper analysis.

Whitehead's thesis that any instance of experience falls within nature, whether it be something willed, felt, thought, or remembered, and thus that these subjective phenomena are equally explicable in terms of generic notions applicable to all other natural phenomena, has found little favor in modern eyes. The spatial limitations of this paper, of course, prevent any extensive treatment of those generalities which Whitehead proposes as a more adequate schema by which to interpret experience, for such a treatment would entail no less than a complete exposition of the Philosophy of Organism. However, a quotation from *Process and Reality* may be given which is pertinent to our discussion, and which will as well suggest one of the philosophical considerations which partially directed the formulation of that philosophy:

> All metaphysical theories which admit a disjunction between the component elements of individual experience on the one hand and on the other hand the component elements of the external world, must inevitably run into difficulties over the truth and falsehood of propositions, and over the grounds for judgment. The former difficulty is metaphysical, the latter epistemological. . . .
>
> The consideration of experiential togetherness [between the competent elements of individual experience] raises the final metaphysical question: whether there is any other meaning of "togetherness." The denial of any alternative meaning, that is to say, *of any meaning not abstracted from the experiential meaning* [my italics] is the doctrine of the philosophy of organism.
>
> The contrary doctrine, that there is a "togetherness" not derivative from experiential togetherness, leads to the disjunction of the components of subjective experience from the community of the external world. This disjunction creates the insurmountable difficulty for epistemology. *For intuitive judgment is concerned with togetherness in experience, and there is no bridge between togetherness in experience, and togetherness of the non-experiential sort* [my italics].[4]

The analogue in traditional philosophy for Whitehead's word "togetherness" is, quite obviously, "causal connectedness." But what is generally called "causal relation" in modern physical science is what Whitehead here calls a meaning "abstracted from the experiential meaning." Obviously in those "lower" categories of Nature where we are wont to locate the "inorganic," the "ex-

[4] Whitehead, *Process and Reality*, p. 288.

periential togetherness" is simply a re-enaction and conformation to the past; and the generalities governing such types of togetherness will take the appearance of inviolable causal *laws*, and rightly give rise to some notion of "mechanism" and "determinism." In "higher" categories (viz., among the organic) the conformation and re-enaction may not be complete and hence not fully predictable, and the generalities governing this experiential togetherness will probably take the form of *statistical* laws. The ideal is to find those generalities which hold over every type of togetherness.

The reason for these remarks is to parry those ill-placed criticisms that discourage the study of Whitehead by falsely anthropomorphizing his doctrine of "experiential togetherness." The notion that Whitehead has cooked-up a contemporary "animism" is adolescent nonsense. He has rather attempted to account for those natural orders which we call "animate," as well as for those we call "inanimate," by an appeal to more generic principles than either of these. The difficulty besetting any venture in the broader generalities is the choice of terms free from too special connotations and yet sufficiently suggestive. I think it is unfortunate that Whitehead has to use here the phraseology "experiential" togetherness; but I know of no better phrase. The meaning of the word "experience" seems to have entrenched itself in most philosophers' minds as necessarily connoting some element of consciousness. For example, the wealth of internal activities in our own bodies, of unconscious reactions, the intricate transmission of blood, nutrition, and the causal and purposive complex interrelations of nerves, glands, and receptors, of which for the most part we are consciously oblivious, except for a vague emotional tone of well- or ill-being, are not often looked upon as instances of *experience*. Whereas for Whitehead these are all perfectly good examples of relatively complex forms of "experiential togetherness." There are good justifications of this latter view, viz., that our own clear-cut *conscious* experience is very sporadic and vague, fading off into a penumbral background, and yet one lit up occasionally by consciousness, such as in severe sickness or abnormal stimulation; also all the data of physiology and psychology point to the fact that our conscious or "mental" states are dependent upon these subsidiary functionings and integrations of "feelings"—"feeling processes," that is, of which we are *not* conscious. Again, practically all the phenomena with which we associate the experience of conscious organic beings, e.g., the reaction to stimuli, willful and purposive efforts, expression, etc., are equally noted in the case of the sleeping and unconscious. There seems to be no need to restrict our word "experience" to the area of consciousness.

In the Philosophy of Organism Whitehead employs the word "prehension" as a neutral term to cover what we have been calling "experiential togetherness." By its very affinity to the word "apprehension," "prehension" forbids any necessary implications of consciousness, and is further extended to cover facts of togetherness as remote as an intuitive judgment and the transmission of energy quanta among electrons. The word "togetherness" is a generic term, and becomes *scientifically* and *cosmologically* significant only when we stipulate some specific type of togetherness. There is a togetherness between molecules, or between a plant and the sunlight, or between an organism and its nutrient, or between the percipient and the perceived. The task of philosophy is to formulate those generalities which are exemplified in every case of natural togetherness, whereas the task of science is to trace the patterns—causal patterns—of specific types of togetherness. The point from which the Philosophy of Organism begins is that all types of togetherness may be characterized as types of experiential togetherness. But this doctrine should *not* further be construed as reading the very highly complex and sophisticated togetherness of human experience, or even lesser animals' experiences, into those lower and relatively vulgar events of plant life and the inorganic. But it *does* suggest that there will be traces in human experience, in virtue of those more primitive cells and events from which it has originated and which it embodies, of reactions and adaptations to the environment which characterize less specialized events of nature.[5] Thus it is to be expected that, in the generalization from our own immediate experience, we shall throw some light upon those conditions of less specialized events of nature. Thus the "problem of efficient causation and of knowledge receives a common explanation by reference to the texture" of immediacy.

But the point is, that the perceptual event, which is a togetherness of percipient and perceived, is to be conceived as an "experiential togetherness." When we speak of a "percipient," it is usually implied that somewhere in this experiential event the to-

[5] Thoughtless philosophers have accused Whitehead of anthropomorphism. Anthropomorphism is the reading of the experience of higher organisms, that is, that element of their experience in virtue of which they lay claim to being "higher" organisms, into lower organisms, and *not* the attempt to disclose the survival of elements of the lower in the higher in virtue of the fact that the latter originated from and embodies the former. The only serious question is, whether, when human experience flowers into consciousness and sense discrimination and intellection, these more vulgar and primitive types of feelings and reactions can equally suffer analysis—or perhaps can even be elicited into consciousness.

getherness flowers into consciousness. So far as we know, this special form of togetherness takes place, and then intermittently, only upon very complex chains of reaction and integration within a highly developed, animal body. The even more sophisticated species of experience involving memory, sense data, and perception, is of lesser scope; and cognition, ill-defined as it is, is apparently the gift only of man. But the thesis that the only element of this togetherness which enters into our consciousness is some determinate qualitative pattern which supervenes upon the event, and so gives birth to "mind," is absolutely baseless. There is no reason for, and every reason for not, thus bifurcating physiology and psychology.

In any mind-body dualism there are necessarily two species of causation, or "togetherness." The first is that which holds between the components of the external world; and the second is that which holds between the external world and the components of the percipient mind. Respecting the former, some credence has been given the view that certain sequential repetitions of sensibilia are its only basis. This view has been necessarily followed by the belief that we have absolutely no insight into the nature of causation. Respecting the latter, i.e., the togetherness between the percipient and the perceived, or mind and its object, there have been in the past numerous verbalisms, e.g., interaction, pre-established harmony, psycho-physical parallelism, etc. In recent times, modest philosophers have proposed more scientific-sounding phrases, such as "a one-one correlation between certain physiological excitements and our psychological phenomena." There has further been an attempt to cover the mystery by saying, for example, that our seeing of a color is *caused* by light rays causing certain physiological disturbances on the retina, which are in turn carried along certain dendrites to the optic nerve, and from thence to the brain, etc. In a sense we have just as much insight into this cause as into that holding between components of the external world, e.g., between the physiological components. But notwithstanding the absence of any philosophical justification, there is a widespread opinion that the mode of causality between objects is fundamentally different from that between an object and subject; that is, that the togetherness of the parts of the body in a physiological train of events leading up to perception is not the same as the togetherness of the mind and body in that perceptual act. In the former togetherness there is a type of *spatio-temporal continuity* between the components, and a dependence of the subsequent for its full nature and existence upon the antecedent. Whereas in the latter togetherness there can be no such continuity, and the physiological

excitement is nonessential to the nature of the mind: it is simply the occasion for this specific perception. Hume's observation holds, that the impressions of sensation arise in the soul originally from unknown causes.

Now all this mystery and false modesty surrounding causality can be dispersed by the simple acknowledgment that the perceptual act is itself a natural event. The perceptual event may or may not involve consciousness, and that in varying degrees. But the important point is that, with every other type of natural togetherness, or causal connectedness, the perception is a *species of experiential togetherness.* It agrees with the mind-body dualism doctrine that the togetherness between the components of the external world is different from that between the external world and the percipient, but only *specifically* different: *generically* they are both natural events explicable in terms of the generalities governing "nature." Nature thus takes on a peculiar complexity; the togetherness of "mind and body" in perception falls within nature as a species of events, but so will cognition. Actually the notion "mind" is an abstraction based upon the various qualia given rise to in this very special type of event called consciousness. In this sense, as Aristotle recognized, subjectivity runs beyond the mere "intellect," which is only a *capacity* of the rational species, and, at best, flickers within his waking hours. And this remaining surd of immediacy provides the basis for our appeal to experience to justify our notion of causality, or of memory, or anticipation and purpose, or of an environment, and of "substance." The mutual sharing of character of our immediacy with all other events of nature, coupled with the fact that we have at our disposal the accidental manifold of experience, makes it possible, by an introspection, analysis, and generalization, of our own experience, to approach a rational interpretation of the complexities of *all* natural occurrences. The novelty of these Whiteheadian assumptions consists, roughly, in construing human experience as a very special species of natural events, and every natural event as a species of experiential events. The traditional mind, matter, and causality become derivative abstractions, applicable within limitations but false if taken as ultimate.

HUGH RODNEY KING

OXFORD, ENGLAND

INDEPENDENCE: EPISTEMOLOGICAL AND PHYSICAL

THROUGH philosophic discussions concerning the dependence of the object of knowledge on the knower, there has lurked a fundamental confusion, the confusion of *epistemological* and *physical* independence or dependence. The distinction between the two seems obvious enough, yet their confusion has wide-reaching consequences. It has been argued that because an object is epistemologically dependent on an observer, it is also physically dependent on that observer. The inference is invalid.

It seems clear, for instance, that the boat carved from wood by its maker is dependent on its maker in a different way from that in which the concept of that kind of boat, together with all its intellectual context, is dependent not only on the wood carver but on human systems in which the concept occurs. In the former sense, the boat is physically dependent on its maker; in the latter sense its concept is epistemologically dependent upon human ideologies. An object is physically dependent on another object, which may not be a knower, if the other object is one of the conditions for its physical occurrence in spatio-temporal relations. It is physically independent if it is not so dependent. But an object is epistemologically dependent only on a knower or knowers whose concepts and definitions determine its nature. It is epistemologically independent if its nature is not so determined.

The confusion in these meanings infects discussions about the nature of scientific objects. But before I enter into these discussions, I should like to call the reader's attention to certain widespread agreements about the nature of scientific objects, since these agreements will be accepted here.

That the imposing structure of our sciences is an edifice constructed from the results of intellectual inquiry there is no doubt. Moreover, there is increasing agreement from all sides that the intellectual formulations of science are not mere records or even "generalizations" of observational experience, since nothing corresponding to them is given to observation. They are creations of the scientific imagination. True, the search for them begins with a given experience calling for explanation and systematization, and somehow scientific formulations must be explanatory of that experience. But the concepts or entities of logic, mathematics, and pure science are constructions of scientific intelligence, and do not reflect anything immediately given in sensory experience.

It will not be necessary here to call attention to the widely-known results of logic, mathematics, and science, which give rise to this conclusion. The highly abstract and symbolically stated

laws of logic are not found and derived from immediate experience. Nor are the number system and all of its entities, including zero, infinity, and imaginary numbers, results of observation and "induction" from experience. Even in natural science, observation is not observation of facts which are given to experience. Rather, it is observation of "pointer-readings," on the results of which are based theories defining scientific entities which are never observed. In all these fields, the entities are constructions of the scientific imagination.

But problems as to the nature of these scientific entities still remain. The controversy concerns their "reality" and relation to sensory experience. It is asked: (1) Are the entities of science duplications of entities which form the structure of the real world, thus giving us a picture of it? Or: (2) Are the entities of science merely fictional, having nothing to do with the ineffable reality which is forced upon us in sensory experience? Or: (3) Are the entities of science themselves the real entities, so that the scientist who constructs the entities of his system is constructing the real world? Or are all three of these questions worn-out, and must the significant questions of philosophy leave out of account the "reality" related to the symbols of mathematics and science, to ask merely about the power, clarity, and inclusiveness of the symbols?[1]

Yet have all the possible answers to these questions been exhausted? If the affirmative answer to question (1) assumes that the structure of the real world which is to be duplicated or reflected in science is a structure epistemologically and physically independent of the intellectual system which is science, I see no means to verify that duplication. For how can the structure of the world which is independent of its formulation in scientific systems be known so that it may be compared with its formulation? As Kant summarizes in the preface to the second edition of the *Critique of Pure Reason*, one can not see the possibility of universal and necessary knowledge of objects if our knowledge must conform to the nature of the objects. The assumption of the conformity of intellectual formulation to an independent nature of things will not be made here.[2]

As to question (2), its answer will not be examined here. If science is merely fictional, I do not see the possibility of its applica-

[1] This, as I understand it, is the thesis of Susanne Langer in *Philosophy in a New Key*, Harvard University Press, 1942.

[2] So far as the "fact" of which Wittgenstein speaks is not a pure construction, but embodies an independent structure of things, the same difficulty obtains. For how can it be shown when scientific symbols are "pictures" of an independent fact?

tion. Nor do I see that anything can be significantly said about an unformulated and ineffable reality.

It is question (3) to which this article wishes to suggest an affirmative answer. The entities formulated by science are the real entities; and, in constructing his formulation, the scientist is constructing the real structure of the world.[3]

Against such a view it is objected that a theory which makes the structure of the real world dependent on intellectual activity robs the world of its independence of human activities as well as of its ordinary reality and significance. And it may be answered that this common-sense view as to the "solidity" and observable nature of the real world is not the basic objection. For any views concerning the unobservable nature of scientific entities equally go against common sense. And is it the aim of philosophy to be the apologist of the confusions of common sense?

The real objection to the view here presented is based on science. For science tells us that the world existed eons before man, an insignificant speck, appeared on it. The law of gravity operated before Newton; and any scientist is subject to the law he formulates. Nature and its laws seem independent of man. How, then, may they be said to be dependent upon man's scientific systems?

The objection is rooted in the before-mentioned confusion of *epistemological* and *physical* independence or dependence. When it is said that the structure of scientific reality is formulated by and is a construct of science, it is meant that reality is epistemologically dependent on scientific formulation. Since the formulated entities of physical science are the real entities of the physical world, its facts and laws, they are products of physics and grow up with the growth of physics. They are forged by the tools of intellectual investigation. Yet these facts and laws are physically independent of man as a physical object in space and time and subject to them in many respects. The formulations and theories of science, on which they are epistemologically dependent, declare them to be physically independent.

The theories of astronomy and geology declare that man arose late in the development of our astronomical system, which system with its laws is physically independent of him. He is not a condition necessary to the operation of those laws. Physical laws are physically independent of man, who is himself subject to them. He reacts with other physical objects in the spatio-temporal scene

[3] An unequivocal presentation of this view is given by Karl Schmidt in *The Creative I and the Divine*, The Dial Press, N. Y., 1937. Though Professor Schmidt's view influences this paper, he is not responsible for any statements made in it.

in accordance with laws which are physically independent of him in the sense that they would operate if he did not exist. Yet those laws are epistemologically dependent, not on an individual man, but on man's systems of scientific knowledge, which declare the laws to be thus physically independent.

There is still another objection to the view that the facts and real entities of science are constructions of science and so epistemologically dependent on it. If the entities of science are dependent on their formulation, on what is the formulation dependent? On sensory experience? But experience of what? For it has been said that the formulations of science are imaginative creations, not records or generalizations of what is found in experience. They can not be "abstractions" of sensory things, if abstraction means a selection of characteristics. For the characteristics formulated by science are not found in experience. Yet, since the formulations of science must somehow be relevant to experience and clarify its confusions, what is the experience and when is it clarified?

In the first place, given experience is not experience of things with stable relations and characteristics. This common-sense complex of things related in one space and enduring through one time is not given in experience. It is itself a formulation—not of science but of that practical common sense which rises to our needs of getting around. It is a scheme itself epistemologically dependent, not on science, but on the common sense which creates it. In the words of William James, in his *Pragmatism*, it is the invention of some prehistoric genius or geniuses and is used by us in our everyday dealings. Though epistemologically dependent, the entities of common sense are themselves independent physically. At least, they are considered so by the common sense whose constructs they are. But being epistemologically dependent, they can not be taken as the "real" basis of scientific "abstractions." Moreover, common-sense entities can not be so real as those of science, since common sense is less accurate, clear, and true; and so they can not form the basis of scientific reality.

The relationship of scientific explanations to the experience they clarify involves the whole notion of experience, which is not the subject of this paper.[4] Suffice it to say that science, along with all intelligent construction, in formulating its problems and solutions, its aims and intellectual standards, must bring clarity and intelligibility into given experience. And, in so doing, science constructs its world of facts and real entities.

[4] I have written briefly of the concept of experience under the view here defended in "Experience as Given," this JOURNAL, Vol. XXXIX (1942), pp. 385–389.

A suggestion as to the ethical results of this view. Men's moral theories and the moral concepts therein are often shown to be creations of the human mind, and thus epistemologically dependent on ethical systems. So long as the facts of physics are considered to be epistemologically as well as physically independent, ethical laws are merely secondary to them. Indeed, they become fictional and with no possible operation or reference to reality. The freedom of man to follow them is denied. But, if it is shown that physical reality, too, is epistemologically dependent on human intellectual systems, and that ethical demands give rise to an ethical reality which must have its place along with the physical reality created by physical systems, perhaps man's freedom and moral nature may be explained. A reconsideration of physical realities as epistemologically dependent on physical theories will lead to a reconsideration of freedom and morals.

EDITH WATSON SCHIPPER

UNIVERSITY OF MIAMI

BOOK REVIEW

Logika. V. F. ASMUS. Gosudarstvennoe Izdatelstvo Polititcheskoi Literaturi. Moscow. 1947. Pp. 383 + 3. 8 rubles.

Logic has been introduced into Soviet schools only recently and this book is probably the first textbook on logic (at least the reviewer has not heard of any others) that has come out of the U.S.S.R. since the revolution. It is a systematic text on a university level, published under the auspices of the Institute of Philosophy of the Academy of Sciences of the U.S.S.R.

The two most remarkable characteristics of the book are its freedom from Marxist argot and ideology on the one hand, and the surprising academic traditionalism of its contents on the other. In the preface Professor Asmus states that his book deals exclusively with *formal* logic and leaves out "the questions of the relation of formal logic to dialectic . . . since investigation of these questions is expedient only on the plane of dialectical logic, and not on the plane of formal logic." So far as the reviewer could observe, there is no further mention of dialectical logic in the book. Professor Asmus defines formal logic as a "theoretical science concerned with correct forms of thinking," and he includes in it both deductive and inductive traditional logic. He thus contrasts *formal logic* not with inductive logic but with *dialectical logic* (i.e., Marxist metaphysics). The philosophical basis of Professor Asmus's views on logic is, according to the pref-

ace, materialism; but there is very little metaphysics of any kind in the text itself. Occasionally, particularly in the earlier part of the work, Professor Asmus discusses some topics (e.g., the nature of the laws of thought) from the point of view of a somewhat vague materialism or, rather, naturalism; but metaphysics is nowhere obtrusive, and the dialectical paraphernalia of the negation of the negation, the transformation of quantity into quality, etc., are completely absent. Throughout the book the author sticks pretty closely to what he calls formal logic. Its content is essentially of traditional academic character, and the book may be considered an adequate text on traditional logic. It contains a few minor improvements in the presentation of some topics, for example, the opposition of terms, and the distribution of terms; and there are some minor deviations from traditional doctrine (especially in Chapter VII); but it contains no serious contribution to modern logical theory. It shows no sign of being influenced by the developments in logical theory in the Western academic world since the turn of the century; for example, it does not deal with compound propositions, it ignores the distinction between class-inclusion and class-membership relations, and does not even mention symbolic logic. In short, it is a competent book on traditional logic but, with a few minor changes, it might have been published in Moscow in 1914. However, as a rarity the book deserves some more detailed account.

Professor Asmus's book is divided into fourteen chapters, each of which is followed by a set of well-chosen problems. It deals mostly with the material traditionally treated under deductive logic, but chapters XI, XII, and XIII are devoted to what is traditionally called inductive logic. One general critical remark should be made at the outset. Some obscurity and at times even confusion in the book are due to the ambiguity of some crucial technical terms. This is, perhaps, not entirely the fault of Professor Asmus. The field of philosophy in the U.S.S.R. has suffered under the yoke of Marxism probably even more than any other cultural field. Formal logic has been under something like a ban for nearly thirty years, and that could not but affect the writing of this book adversely. The book bears the sad mark of intellectual handicaps under which Russian philosophers work in the U.S.S.R.

Chapters I to XI deviate very little from the traditional treatment. They contain a few errors and some inconsistencies, but on the whole require no special comment in a general review. Chapters XII, XIII, and XIV, however, deserve a little more careful scrutiny. Chapter XII is on the relation between induction

and deduction. Deduction and induction are distinguished in three respects: (1) roughly, deduction seeks to establish some relation between propositions, while induction looks for causal connection between facts; (2) deduction proceeds from more to less general, induction from particular to general; (3) conclusion in deduction is certain, in induction only probable. After stating the differences between deduction and induction, Professor Asmus asserts that they are not hard and fast when the logical basis of deduction and induction is examined. By "logical basis" here Professor Asmus understands "logical type of inference." The whole discussion is rather unclear and in places even self-contradictory. The main point, that the processes of inference are similar in both cases, is ambiguous, since Professor Asmus does not explain what he means by the "process of inference." He seems not to be clear about the difference between inference and implication, and this confusion is evident in the whole of this chapter and also in the concluding chapter. Chapter XIII is on hypotheses and analogy. Professor Asmus distinguishes three meanings of hypotheses: (1) mere guess; (2) assumption about *the cause* of some events which is not open at present to direct observation, but which may become observable later; (3) "assumption about existence—at present or in the past—of such a regular order of things or of such a cause which, in the given state of science or because they had terminated in the past, can not be observed directly, but which, once we assume their existence, explains a certain set of events which are actually observed or are well known from history." Science, according to Professor Asmus, uses this last meaning of hypotheses. The discussion is brief and suffers somewhat from the attempt to force it into the scheme of subject-predicate: hypothesis is the subject of judgment about events, the predicate is the set of events to be explained. Apart from the artificiality of this scheme, the discussion is good. The guiding principle in the search for a hypothesis is analogy. But the rôle of analogy ends with suggestion, and it has no demonstrative significance. Chapter XIV, the last chapter, investigates the nature of demonstration or proof. Here Professor Asmus makes what is probably his most serious error: he confuses inference with logical implication. Te begin with, there is terminological confusion; two terms are used interchangeably and indiscriminately for both inference and implication. In spite of this terminological ambiguity, however, the distinction between implication and inference is made out clearly enough by examples and discussion; and, using that as a base, we see that Professor Asmus understands by inference a proof of the truth of the conclusion

on the basis of the truth of the premises and the validity of the implication between the premises and the conclusion. This is quite sound. But right after this Professor Asmus adds (the last line on page 345 and, again, on page 352) that *inference is an implication about an implication.* In other words, Professor Asmus considers inference to be itself a *special logical form* of an already completed process of proof (p. 347). Professor Asmus evidently had no opportunity to read Lewis Carroll's imaginary discussion on this subject between Achilles and the Tortoise, and he does not realize that there is an unavoidable psychological element in inference, that inference can not be completely formalized, and that, although in the process of inference we do *use* implication, *inference is not an implication.* As another topic in the same chapter Professor Asmus divides proofs into two kinds: proofs in essence, which depend on investigation of the truth of the premises and of the validity of the implication of the conclusions by the premises; and genetic proofs, which depend on the investigation of the sources of our information. This division is credited in the preface to Professor S. I. Povarnin. The chapter concludes with a good discussion of fallacies of proof. These are classified as fallacies of thesis, premises, and argument.

In conclusion I wish to say that the book is written on a high academic level, even though its contents are somewhat behind the times and it contains a number of errors. The reviewer wishes in particular to compliment the author on one point—his illustrations are always well chosen, mostly from scientific literature, and he avoids trivial and artificial examples so common to texts on logic. The physical appearance of the book is rather shabby: the paper is poor, and therefore the print and drawings, although obviously done with care, are not always clear. The proof reading was excellent. The book has a table of contents, but, in common with most Russian publications, no index.

ALEXANDER P. MASLOW

UNIVERSITY OF BRITISH COLUMBIA

JOURNALS AND NEW BOOKS

THE PHILOSOPHICAL REVIEW. Vol. LVIII, No. 1. A Symposium on the Relation of Logic to Metaphysics. The Relation of Logic to Metaphysics: *E. J. Nelson.* Everett J. Nelson on "The Relation of Logic to Metaphysics": *Alice Ambrose.* The Metaphysics of Logic: *E. W. Hall.* In Defense of Logic without Metaphysics: *Ernest Nagel.* La Philosophie en France, 1946–1947:

André Lalande. Discussion—Animism as a World Hypothesis: *E. A. Robinson.*

RIVISTA DI FILOSOFIA. Volume XXXIX, III, Fasc. 4. Verso il nuovo illuminismo—John Dewey: *N. Abbagnano.* Nuovi svilluppi del pensiero di Jaspers: *L. Pareyson.* El problema dell'ordine umano e la necessità nel pensiero di Montesquieu: *S. Cotta.* Sul "Tacitismo" di Grozio: *A. Corsano* e *A. Droetto.* Adolfo Levi: *A. Rava.*

ARCHIV FÜR PHILOSOPHIE. Heft 2. Über einen neuen ontologischen Berweis des Satzes von der Notwendigkeit alles Geschehens: *Josef König.* Formen und Grenzen der Gleichheitserkenntnis: *Michael Landmann.* Gleichzeitigkeit und Raum: *Richard Hönigswald.* Naturgesetz und Theodizee: *C. F. Freiherr v. Weizsäcker.* Das Problem des Wettlaufs zwischen Achill und der Schildkröte: *Aloys Müller.* Bemerkungen zu Heinrich Scholz' Grundlegung der Metaphysik: *Jürgen v. Kempski.*

Allendy, René: Treason Complex. Translated by Ruth Kissman Siler. New York: Social Sciences Publishers. 208 pp. $3. 75.

Ames, Russell: Citizen Thomas More and his Utopia. Princeton, N. J.: Princeton University Press. 1949. viii + 230 pp. $3.50.

Immanuel Kant. Critique of Practical Reason and Other Writings in Moral Philosophy. Translated and edited with an Introduction by Lewis White Beck. Chicago: University of Chicago Press. 1949. xv + 370 pp. $5.00.

Beer, Samuel H.: The City of Reason. Cambridge, Massachusetts: Harvard University Press. 1949. viii + 227 pp. $4.00.

Cairns, Huntington: Legal Philosophy from Plato to Hegel. Baltimore: Johns Hopkins Press. 1949. xv + 583 pp. $7.50.

Cohen, Morris R., and Drabkin, I. E.: A Source Book in Greek Science. (Source Books in the History of the Sciences, Gregory P. Walcott, General Editor.) 1948. xxi + 579 pp. $9.00.

Jaeger, Werner: The Theology of the Early Greek Philosophers. (The Gifford Lectures, 1936) Oxford: At the Clarendon Press. 1947. New York: Oxford University Press. 1948. vi + 259 pp. $5.00.

James, William: Essays in Pragmatism. Edited with an Introduction by Alburey Castell. (Hafner Library of Classics, № 7.) New York: Hafner Publishing Company. 1948. xvi + 176 pp. Cloth, $1.90; paper, $.90.

Jennings, J. G., editor: The Vedantic Buddhism of the Buddha. A collection of historical texts translated from the original Pali. London: Geoffry Cumberlege. New York: Oxford University Press. 1948. cxvii + 679 pp. $16.00.

Kant, Manuel: La Filosofía como Sistema. Primera Introducción a la Crítica del Juico. (Serie Textos Filosóficos, Filosofía Moderna, No. 1.) Buenos Aires: Universidad de Buenos Aires. 1948. 87 pp.

Kierkegaard, Søren: Edifying Discourses. Volumes I and II in a series of four volumes. Translated from the Danish by David F. Swenson and Lillian Marvin Swenson. Minneapolis, Minn.: Augsburg Publishing House. 1943, 1944. ix + 123 pp; xxi + 91 pp. $1.50 each.

Locke, Hume, and Rousseau. Essays. Social Contract. With an Introduction by Sir Ernest Barker. (The World's Classics) Galaxy Edition. New York and London: Oxford University Press. 1948. xliv + 307 pp. $1.75.

MacIver, R. M., editor: Civilization and Group Relationships. A series of addresses and discussions. (Religion and Civilization Series) New York: Institute for Religious Studies. Distributed by Harper and Brothers, N. Y.

Merz, John Theodore: Leibniz. New York: Hacker Press. 1948. 216 pp. $2.75.

Miller, Perry, editor: Images or Shadows of Divine Things by Jonathan Edwards. New Haven: Yale University Press. 1948. viii + 151 pp. $2.75.

Morgan, Charles: The Liberty of Thought and the Separation of Powers. A modern problem considered in the context of Montesquieu. (The Zaharoff Lecture for 1948.) Oxford: At the Clarendon Press. New York: Oxford University Press. 1948. 20 pp. 75¢.

Müller, Aloys: Welt und Mensch in ihrem Irrealen Aufbau. Eine Einführung in die Philosophie. Dritte, völlig neubearbeitete Auflage. Bonn: Ferd. Dümmlers Verlag. 1947. .236 pp. 8/.

Nollen, John Scholte: The Way. The Truth. The Life. The Words of Jesus. Selected from the Gospels. Calligraphy by Edward A. Karr. Boston: The Beacon Press. 1948. 64 pp. $1.00.

Nuyens, François: L'évolution de la psychologie d'Aristote. Ouvrage traduit du Néerlandais. (Aristote, Traductions et Études.) Louvain: Éditions de l'Institut Supérieur de Philosophie. 1948. Paris: J. Vrin. 1948. 353 pp.

O'Connor, William R.: The Natural Desire for God. (The Aquinas Lecture, 1948, under the Auspices of the Aristotelian Society of Marquette University.) Milwaukee: Marquette University Press. 1948. 90 pp. $1.50.

Ogiermann, Helmut Aloisius: Hegels Gottesbeweise. (Analecta Gregoriana. Vol. XLIX. Series Facultatis Philosophicae

Sectio B, N. 6.) Romae: Apud Aedes Universitatis Gregonianae. 1948. xi + 230 pp.

Organ, Troy Wilson: An Index to Aristotle in English Translation. Princeton: Princeton University Press. 1949. vi + 181 pp. $5.00.

Poortman, J. J.: Repertorium der Nederlandse Wijbegeerte. Amsterdam: Wereldbibliotheek N.V. 403 pp. 15 f.

Ramming, Gustav; Jaspers, Karl; und Rickert, Heinrich. Existenzialismus und Wertphilosophie. Bern: A. Francke, Ltd., Co. 1948. 108 pp. 8 s. fr.

Rey, Abel: L'Apogée de la science technique grecque. L'essor de la mathématique. (La Science dans l'Antiquité V. L'Évolution de l'Humanité.) Paris: Éditions Albin Michel. 1948. xiii + 322 pp. 390 fr.

von Rintelen, Fritz Joachim: Von Dionysos zu Apollon der Aufstieg im Geiste. (Bücher des Wissens, Band 4.) Wiesbaden: Metopen Verlag. 1948. xvi + 122 pp.

Romano, Pietro: Ontologia del Valore. Studio Storico-Critico sulla Filosofia dei Valori. (Problemi d'Oggi. Terza Serie, Volume Ottavo.) Padova: Decam. 1949. 221 pp. 950 l.

Rossi, Mario M.: Storia d'inghilterra. Vol. I. I Popoli dalle origiru al 1066. Firenze: G. C. Sansoni. 1948. xiv + 454 pp. 1200 l.

Rosteutscher, J. H. W.: Die Wiederkunst des Dionysos. Der Naturmystische irrationalismus in Deutschland. Bern: A. Francke. 1947. 266 pp. 17.80 s. fr.

Schillinger, Joseph: The Mathematical Basis of the Arts. Part One. Science and Esthetics. Part Two. Theory of Regularity and Coördination. Part Three. Technology of Art Production. New York: Philosophical Library. 1948. x + 696 pp. $12.00.

Schilling, Kurt: Platon Einführung in seine Philosophie. (Monographien zur Philosophischen Forschung, Band III/IV.) Wurzach/Württ: Rudolf Birnbach. 1948. 348 pp.

NOTES AND NEWS

The Committee on Information Service, Vacancies and Available Personnel, of the American Philosophical Association is functioning, and appointing officers and candidates for new positions should write to the chairman of the committee, Professor Lewis White Beck, Lehigh University, Bethlehem, Pennsylvania.

INTERNATIONAL BIBLIOGRAPHY OF PHILOSOPHY

In its annual report for 1948 the Bibliography Committee of the American Philosophical Association called attention to the reappearance semi-annually of the *Bibliographie de la Philosophie,* which began in 1937, published by the *Institut International de Philosophie.* Beginning with 1949 this Bibliography will make available in both French and English a comprehensive listing of philosophical literature throughout the world. It is now the official organ of the International Federation of Philosophical Societies and is also sponsored by UNESCO. The Secretary of the Bibliography Committee of the American Philosophical Association coöperates with the central editors in Paris in providing adequate listing of American titles. It is essential to the success of this enterprise that the renewed and enlarged bibliography enjoy not only this editorial coöperation on the part of Americans but also that a substantial number of subscriptions be taken both by individuals and libraries.

The editors of the Bibliography request American teachers of philosophy to subscribe and to call the attention of their academic libraries to the desirability of beginning library subscriptions with the year 1949.

Subscriptions may be sent to M. Raymond Bayer, 51 Av. Georges-Mandel, Paris 16, France. The annual price to members of the Association is $2.00 plus 75¢ for postage. The price to others and to libraries is $3.00 plus 75¢ for postage.

For the convenience of members of the American Philosophical Association and other American subscribers, the secretary of the Bibliography Committee has agreed to collect and forward subscriptions. Subscriptions may be sent on the form below.

Subscription beginning 1949 to the International Bibliography of Philosophy.

For members of the American Philosophical Association, $2.75.
For non-members and libraries, $3.75.

Check enclosed for .....

Send bill .....

Signature .....

Address .....

.....

.....

Checks to be made payable to Emerson Buchanan and mailed to him at Butler Library, Columbia University, New York 27, N. Y.